

REMARKS/ARGUMENTS

The specification and claims have been carefully reviewed in the light of the Office Action to which this amendment is responsive. By this amendment, claims 1-8 have been canceled without prejudice and in substitution therefore new claims 9 and 12 are presented herewith which are believed to have improved form and to distinguish even more clearly over the prior art. The specification and drawings also have been amended consistent with the amended claims and the original disclosure, and without the addition of new matter.

Claims 1-8 alternatively have been rejected as been obvious over Aoe (JP 60015189) Donald (GB 2096294A), or Donald (GB 2096294A) in view of Piccinino et al. (U.S. 6,058,621), and reconsideration of such rejections is respectfully requested.

Applicant has disclosed and claimed herein a printing press with an improved radiant heater having particular utility for efficiently drying and curing varnishes and UV printing inks in high speed printing operations. Applicant's specification points out the inefficiencies in prior radiant heaters in high speed printing presses by virtue of highly divergent radiation attributable to circular discharge chambers associated with the heating tubes and space limitations within the press. (See Specification Para. [0004]-[0005]) Applicant's invention relates to a radiant heater adapted for higher energy output and more compact mounting within the press. (Specification Para. [0007]) The radiant heater includes a plurality of radiant tubes arranged in parallel relation to each other within a housing with a common reflector supported within the housing for directing predetermined radiation onto the passing printed sheet material.

The reflector according to the invention is uniquely constructed and configured for providing optimum irradiation of printed material even when passing at high rates of speed. The reflector is formed with parallel parabolic shaped reflector sections each for receiving a respective one of the radiant tubes. In the preferred embodiment, the parabolic reflector sections define a closed bottom joint intermediate wall between adjacent radiant tubes that extends below the upper periphery of the radiant tubes, but not below the lower periphery thereof. The upstream most reflector section has an end wall that extends to a level below the level of the radiant tubes and faces in a downstream direction, and the downstream most reflector section has an end wall that similarly extends to a level below the level of the radiant tubes and faces in an upstream direction, as called for in independent claim 9. Preferably, the parabolic shaped reflector section have central axes that are inclined at acute angle to each other such that the parabolic shaped reflector sections open in a direction

AMENDMENTS TO THE DRAWINGS

The attached sheet includes changes to Fig. 1. This sheet, replaces the original sheet including Fig. 1 wherein reference numerals 4A, 5A, 6, 8 and 9 and the symbol α have been added.

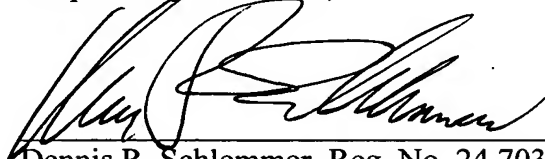
Attachment: Replacement Sheet(s)
Annotated Sheet(s) Showing Changes

toward each other, as called for in claim 12. As brought out in the specification, such specifically configured reflector is adapted to direct optimum irradiation on to even high-speed printing materials exiting a printing unit.

In contrast, none of the prior art, alone or in combination, teaches or suggests applicant's novel reflector construction nor its performance benefits. While Aoe (JP 60015189) discloses a plurality of radiant tubes, the reflector sections are circular, consistent with the prior art, not parabolic. Nor do the reflector sections define the specific end and intermediate wall relationship as called for in claim 9, nor have the inclination as called for in independent claim 12. Donald (GB 2096294A) neither discloses a common reflector for a plurality of radiant tubes, nor parabolic shaped reflector sections, nor the wall construction as claimed. While Piccinino et al. (U.S. 6,058,621) discloses a plurality of laterally spaced parabolic shaped reflectors, it has no appreciation of the other important features of applicant's invention, including the utilization of a common reflector for a plurality of radiant tubes, the novel wall construction defined by the parabolic sections, nor the inclination of parabolic sections for enhanced optimum irradiation of the passing printed material. Nor is it believed that there would be any impetus to a person skilled in the art to individually pick and choose - without the benefit of hindsight and without disregarding the teachings of the individual references - various features of the three diverse prior art patents in arriving at applicant's invention. Even that combination, as shown above, would not result in the specific reflector constructions as set forth in the claims as now presented, nor appreciate its improved operating performance.

From the foregoing, therefore, it is believed that the claims as now presented are directed to features which are neither disclosed nor suggested by the prior art so as to be in condition for allowance. Accordingly, an early action to that effect is respectfully requested.

Respectfully submitted,



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ANNOTATED SHEET

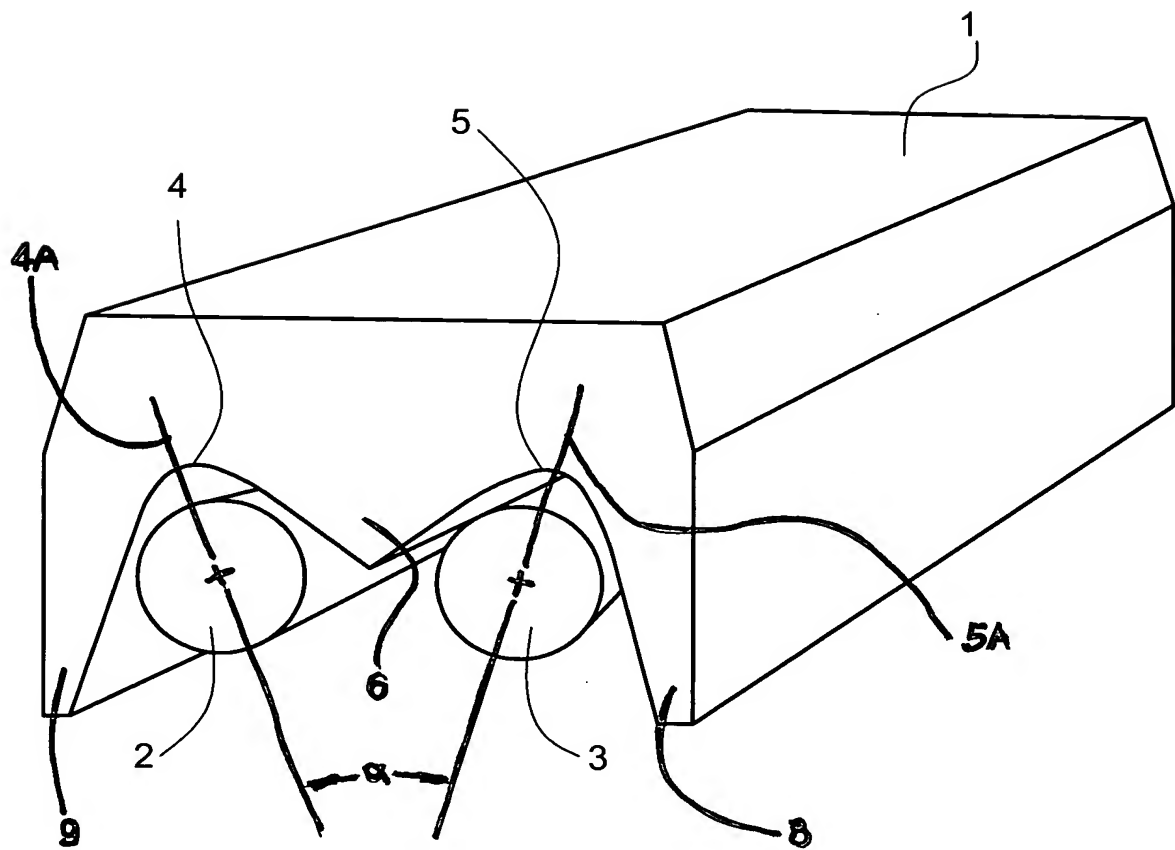


FIG. 1